

What is claimed is:

1. A portable telephone set comprising a detector for detecting the better receiving sensitivity one of radio signals received by an exclusive receiving antenna for only receiving radio signals and a transmitting/receiving antenna for transmitting and receiving radio signals, a switch for selecting the radio signal determined in the detector to be the better receiving sensitivity one, and a radio circuit for demodulating the radio signal from the switch.

2. A portable telephone set comprising a detector for detecting the better receiving sensitivity one of radio signals received by an exclusive receiving antenna for only receiving radio signals and a transmitting/receiving antenna for transmitting and receiving radio signals, a switch provided in a first housing for selecting the radio signal determined in the detector to be the better receiving sensitivity one, and a radio circuit provided in a second housing for demodulating the radio signal from the switch, the switch and the radio circuit being interconnected by a cable.

3. A portable telephone set comprising a detector for detecting the better receiving sensitivity one of radio signals received by an exclusive receiving antenna for only receiving radio signals and a transmitting/receiving antenna for transmitting and receiving radio signals, a

switch provided in a first housing for selecting the radio signal determined in the detector to be the better receiving sensitivity one, a radio circuit provided in a second housing for demodulating the radio signal from the switch, and a battery for supplying power to at least the radio circuit is provided on the side of the first housing, the switch and the radio circuit being interconnected by a cable and power from the battery being supplied via the cable to the radio circuit.

4. A portable telephone set comprising a detector for detecting the better receiving sensitivity one of radio signals received by an exclusive receiving antenna for only receiving radio signals and a transmitting/receiving antenna for transmitting and receiving radio signals, a switch provided in a first housing for selecting the radio signal determined in the detector to be the better receiving sensitivity one, and a radio circuit provided in a second housing for demodulating the radio signal from the switch, the switch and the radio circuit being interconnected by a cable and the individual antennas being secured to or detachably mounted on the body of the set.

5. A portable telephone set comprising a detector for detecting the better receiving sensitivity one of radio signals received by an exclusive receiving antenna for only receiving radio signals and a transmitting/receiving antenna for transmitting and receiving radio signals, a

switch provided in a first housing for selecting the radio signal determined in the detector to be the better receiving sensitivity one, a radio circuit provided in a second housing for demodulating the radio signal from the switch, and a battery for supplying power to at least the radio circuit is provided on the side of the first housing, the switch and the radio circuit being interconnected by a cable, power from the battery being supplied via the cable to the radio circuit and the individual antennas being secured to or detachably mounted on the body of the set.

6. The portable telephone set according to one of claims 3 and 4, wherein:

the radio circuit and the cable are connected in parallel via coils and capacitors; and

power from the battery is supplied via the coil side to the radio circuit, and a radio signal received by either one of the antennas is transmitted via the capacitor side to the radio circuit.

7. The portable telephone set according to one of claims 1 to 5, wherein the cable is a coaxial cable.

8. A portable telephone set comprising a radio circuit for demodulating a radio signal received by an antenna and transmitted via a cable, and a battery for supplying power to the radio circuit, wherein:

the battery and the radio circuit are interconnected

by the cable, and power from the battery is supplied via the cable to the radio circuit.

9. A portable telephone set including a first housing provided with a first and a second terminals to be connected with a first and a second external antennas, and a second housing electrically connected via a coaxial cable and mechanically connected with the first housing,

the first housing including a switch connected via a capacitor with the coaxial cable, for selectively connecting one of the first and second terminals which provides higher receipt sensitivity on the basis of a switching signal and a DC power supply connected via an inductance to the coaxial cable,

the second housing including a radio circuit connected via the capacitance with the coaxial cable, for processing a radio signal to be transmitted, supplying the processed radio signals to the first or second internal antenna and processing the received radio signal, a control circuit connected via an inductance with the coaxial cable, for outputting the switching signal on the basis of the received signal level by the external antenna and an inductance connected between the coaxial cable and a circuit required to be supplied with the DC power supply,

thus the radio signal being transmitted/received and the DC power being supplied via the coaxial cable.

10. A portable telephone set including a first

housing provided with a first and a second terminals to be connected with a first and a second external antennas, and a second housing electrically connected via a coaxial cable and mechanically connected with the first housing,

the first housing including a switch connected via a capacitor with the coaxial cable, for selectively connecting one of the first and second terminals which provides higher receipt sensitivity on the basis of a switching signal, a DC power supply connected via a inductance to the coaxial cable, and a control circuit for outputting the switching signal on the basis of the received signal level by the external antenna,

the second housing including a radio circuit connected via the capacitance with the coaxial cable, for processing a radio signal to be transmitted, supplying the processed radio signals to the first or second internal antenna and processing the received radio signal, and an inductance connected between the coaxial cable and a circuit required to be supplied with the DC power supply,

thus the radio signal being transmitted/received and the DC power being supplied via the coaxial cable.

11. A portable telephone set including a first housing provided with a first and a second terminals to be connected with a first and a second external antennas, and a second housing electrically connected via a coaxial cable and mechanically connected with the first housing, the first housing including a radio circuit connected

with the coaxial cable for processing a radio signal to be transmitted and supplies the processed radio signals to the first or second internal antenna and processing the received radio signal, a control circuit for outputting a switching signal on the basis of the received signal level by the external antenna, and a DC power supply for supplying DC power to the radio circuit,

the second housing including a switch connected with the coaxial cable, for selectively connecting one of the first and second internal antennas which provides higher receipt sensitivity,

thus the radio signal being transmitted/received via the coaxial cable.

12. A portable telephone set including a first housing provided with a first and a second terminals to be connected with a first and a second external antennas, and a second housing electrically connected via a coaxial cable and mechanically connected with the first housing,

the first housing including a radio circuit connected via a capacitance with the coaxial cable for processing a radio signal to be transmitted and a radio signal received by the external antenna, and a DC power supply connected via an inductance with the coaxial cable,

the second housing including a switch connected via a capacitor, for selectively connecting one of the first and second internal antennas according to a switch signal, and a control circuit connected via an inductance with the

coaxial cable, for outputting the switching signal on the basis of the received signal level via the coaxial cable, thus the radio signal being transmitted/received and the DC power being supplied via the coaxial cable.

13. The portable telephone set according to one of claims 9 to 12, wherein the operations of internal antennas are stopped when the external antennas are connected to the first and second terminals.